

M C P S E R V E R

N O C O D E

C L O U D H O S T E D

Cement Bond Log Interpretation MCP

Get precise wellbore integrity assessments from acoustic logs.

Cement Bond Log Interpretation MCP gives your AI client the ability to interpret CBL and VDL data. It handles the heavy lifting of calculating bond indices, estimating compressive strength, and spotting cement channels or microannulus effects. Instead of manual log review, you can use your agent to identify formation interference and assess the quality of your cement sheath directly from acoustic readings.

A+ Quality Score 100/100

cbl

vdI

cement-evaluation

wellbore-integrity

acoustic-logs



The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest
managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.

— Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT`https://edge.vinkius.com/{token}/mcp`

Claude



Cursor



VS Code



Windsurf



Grok



Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1)
Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

Get started at cloud.vinkius.com — connect your AI agent in under 60 seconds.

Cement Bond Log Interpretation MCP

4 tools available

Cloud-hosted on Vinkius

You can now bring acoustic log analysis directly into your AI-driven workflow. This MCP provides the specific logic needed to evaluate wellbore cement integrity using CBL and VDL data. When you feed log readings to your agent, it uses these tools to determine bond quality at specific depths and identify potential fluid pathways caused by incomplete coverage. It also accounts for complex variables like microannulus effects and fast formation interference, which often skew standard interpretations. By offloading these calculations to your AI client, you can quickly spot cement channels or evaluate how much formation characteristics are impacting your readings. It turns raw acoustic data into actionable insights about your wellbore's structural health.

Core Capabilities

01 — Bond Index Calculation

Your agent calculates the bond index to quantify cement quality.

02 — Channel Detection

The AI identifies fluid pathways where cement coverage is incomplete.

03 — Interference Assessment

Your client evaluates how formation characteristics impact acoustic log accuracy.

04 — Strength Estimation

The MCP estimates the compressive strength of the cement based on log data.

05 — Microannulus Identification

Your agent detects signals suggesting a microannulus is present.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/cement-bond-log-interpretation — connect your AI agent in three steps.

- 01 Connect your AI client to the Vinkius hosted MCP.
- 02 Provide the CBL or VDL log data to your agent.
- 03 Ask your agent to perform specific tasks like bond quality analysis or channel detection.
- 04 Receive calculated results like bond index, strength, or diagnostic summaries.

Connecting this MCP to your AI client allows you to perform complex log analysis through simple text commands.

Built For

This MCP is built for petroleum engineers and wellbore integrity specialists who need to process acoustic logs quickly.

Petroleum Engineer

Hands off raw CBL/VDL data to the AI to get rapid bond quality reports.

Wellbore Integrity Specialist

Uses the agent to identify potential leaks or channels in the cement sheath.

Geophysicist

Relies on the tool to evaluate formation interference in acoustic logs.

What Changes When You Connect

- 01 Automates bond index and compressive strength calculations.
- 02 Identifies fluid pathways and cement channels through automated detection.

- 03

Corrects for formation interference and microannulus effects in log readings.
- 04

Converts visual VDL data into structured diagnostic summaries.

Real-World Applications

Integrity Audits

Run a check on cement quality across a specific interval to ensure zonal isolation.

Log Interpretation

Get a quick diagnostic summary of VDL data without manual visual inspection.

Troubleshooting Leaks

Use the channel detection tool to find why a well might be losing pressure.

Formation Correction

Determine if formation characteristics are creating false readings in your logs.

4 Tools Available

#	TOOL	DESCRIPTION
01	get_vdl_summary	This tool provides a high-level diagnostic summary based on the visual data from your VDL logs.
02	analyze_bond_quality	Use this to determine the overall quality of the cement bond at any specific depth.
03	detect_cement_channels	This tool identifies potential fluid pathways created by incomplete cement coverage.
04	evaluate_formation_interference	This tool assesses how much formation characteristics are affecting your log readings.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U What is the cement bond quality at 5000 feet with an amplitude of 2.5 mV and travel time of 250 microseconds?



The bond index is 0.85, which is rated as Good, with an estimated compressive strength of 1500 psi.

U Are there any cement channels in the interval from 4500 to 4600 feet?



No channels were detected in the specified interval.

U Provide a summary of the VDL data: 'strong_formation_signal_with_casing_arrivals'.



The VDL shows strong formation bonding with significant casing arrivals, suggesting a potential microannulus.

Frequently Asked Questions

01 What kind of logs can this MCP interpret?

This MCP is designed specifically for Cement Bond Logs (CBL) and Variable Density Logs (VDL).

02 Can I use this with Claude or Cursor?

Yes, you can connect this MCP to any compatible client including Claude, Cursor, and Windsurf.

03 How does it handle formation interference?

The MCP includes a tool to evaluate how much formation characteristics are affecting your log readings to ensure accuracy.

04 Does it detect cement channels?

Yes, it has a dedicated tool to identify potential fluid pathways caused by incomplete cement coverage.

05 Do I need to host the MCP myself?

No, Vinkius hosts and manages the MCP for you, so it is ready to use immediately after connection.

Go Live in 60 Seconds

Get your connection token from cloud.vinkius.com, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

`https://edge.vinkius.com/[TOKEN]/mcp`

CLIENT	WHERE TO CONFIGURE
 Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
 Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
 VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add <code>"cement-bond-log-interpretation": { "url": "..." }</code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → Add endpoint URL
 ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
 Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

-  Ask ChatGPT 
-  Ask Claude 
-  Ask Perplexity 
-  Ask Gemini 
-  Ask Grok 

READY TO CONNECT

Cement Bond Log Interpretation is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and
start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

INDEPENDENT PLATFORM DISCLAIMER

Vinkius is an independent platform and is not affiliated with, endorsed by, sponsored by, verified by, or otherwise authorized by Cement Bond Log Interpretation. All third-party trademarks, logos, and brand names are the property of their respective owners. Their use in this document is strictly for informational purposes to identify service compatibility and interoperability.

DOCUMENT INFORMATION

Generated	September 2026
MCP Server	Cement Bond Log Interpretation MCP
Server ID	01a08689-d402-73eb-b74a-9192b88380e6
Platform	Vinkius Cloud for AI Agents
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

LICENSE & USAGE

This document is generated automatically by the Vinkius PDF Engine. Content reflects the MCP server configuration at the time of generation and may change as updates are deployed. For the most current information, visit vinkius.com/en/ai-agent-connect/cement-bond-log-interpretation.